**1. Medical condition proposed: Please be specific. Do not submit broad categories such as (mental illness) or any that contradict the Medical Marihuana Act such as (conditions resulting in hospitalization or all hospice patients).**

Obsessive-compulsive disorder

**2. Provide justification for why this medical condition should be included as a qualifying debilitating medical condition for the use of medical marihuana. Be specific as to why medical marihuana should be used for this condition.**

In a study of medical marijuana patients in Arizona, many patients reported very significant relief levels of various stress, anxiety, repetitive, debilitating and aggressive mental illnesses.

https://www.ncbi.nlm.nih.gov/pubmed/26317379

367 medical marijuana patients in Arizona were surveyed.
181 patients reported using medical marijuana to experience relief from Anxiety
164 patients reported using medical marijuana to experience relief from Stress.
General relief from Anxiety symptoms was 82.9% and 87.2% for Stress with medical marijuana,
Relief by medical marijuana compared to other medications was 79.3% for Anxiety and 91.6% for Stress.
Less frequent use of other medications was 85.9% for Anxiety and 79.1% for Stress.

32 patients reported using medical marijuana to experience relief from Attention-deficit/hyperactivity disorder.
General relief from ADHD symptoms was 81.2% with medical marijuana.
Relief by medical marijuana compared to other medications was 65% for ADHD.
Less frequent use of other medications was 84% for ADHD

23 patients reported using medical marijuana to experience relief from Bipolar disorder.
General relief from Bipolar disorder symptoms was 60% with medical marijuana.
Relief by medical marijuana compared to other medications was 90% for Bipolar disorder.
Less frequent use of other medications was 56% for Bipolar Disorder.

106 patients reported using medical marijuana to experience relief from Depression.
General relief from Depression symptoms was 82% with medical marijuana.
Relief by medical marijuana compared to other medications was 86.9% for Depression.

Less frequent use of other medications was 65% for Depression.

17 patients reported using medical marijuana to experience relief from Obsessive Compulsive Disorder..
General relief from OCD symptoms was 64.7% with medical marijuana.
Relief by medical marijuana compared to other medications was 62% for OCD.
Less frequent use of other medications was 33.4% for OCD.

2 patients reported using medical marijuana to experience relief from Schizophrenia.
General relief from Schizophrenia symptoms was 100% with medical marijuana.
Relief by medical marijuana compared to other medications was 100% for Schizophrenia.

28 patients reported using medical marijuana to experience relief from PTSD.
General relief from PTSD symptoms was 67.9% with medical marijuana.
Relief by medical marijuana compared to other medications was 92% for PTSD.
Less frequent use of other medications was 44.4% for PTSD.

In a study on UK patients using medical marihuana, many patients reported using marijuana to treat symptoms of Depression.

172 patients reported using medical marijuana to treat Depression for 3-10 years.

24 patients reported using medical marijuana to treat Psychological symptoms for 3-17 years.

Two case reports are presented on people being treated with Dronabinol, a synthetic THC.

10.1176/appi.ajp.2007.07061016
Improvement in Refractory Obsessive Compulsive Disorder With Dronabinol

It has been reported that 40%–60% of patients with obsessive-compulsive disorder (OCD) do not respond to first-line treatment. Treatment options for these patients include switching to another agent or augmentation (1). We report on two patients with treatment-resistant OCD and comorbid axis I disorders who responded to an augmentation with the cannabinoid dronabinol.

"Mrs. L" was a 38-year-old woman who was admitted with recurrent major depression and OCD (Yale-Brown Obsessive Compulsive Scale score: 20) after outpatient treatment with paroxetine (60 mg) for 8 months and cognitive behavioral therapy (CBT) were not efficacious. Switching to clomipramine (300 mg) resulted in partial response after 12 weeks of treatment. Based on the patient's report that smoking marijuana usually relieved her symptoms, an augmentation with dronabinol (2.5%; 10 mg t.i.d.) was started. The prior medication was continued. While undergoing treatment with dronabinol (2.5%), the patient's OCD symptoms decreased significantly within 10 days (Yale-Brown Obsessive Compulsive Scale score: 10).

"Mr. K" was a 36-year-old man with schizophrenia and OCD who was admitted for deterioration of psychotic and obsessive symptoms (Yale-Brown Obsessive Compulsive Scale score: 23). During his course of illness, Mr. K had been treated with antipsychotics (including haloperidol, olanzapine, risperidone, quetiapine, and aripiprazole), both in monotherapy and in combination with selective serotonin reuptake inhibitors. His OCD symptoms in particular remained predominately treatment resistant. Treatment with clozapine (400 mg), which he had already received for more than 1 year (in combination with paroxetine [60 mg] for 13 weeks) resulted only in partial response of his psychotic and OCD symptoms. Switching paroxetine to clomipramine (for another 10 weeks), followed by an additional course of 18 electroconvulsive therapy treatments (right unilateral high dose), did not improve the patient's psychotic or OCD symptoms significantly. After the addition of dronabinol to ongoing treatment with clomipramine (150 mg) and clozapine (400 mg), a significant reduction of OCD symptoms was observed within 2 weeks (Yale-Brown Obsessive Compulsive Scale score: 15). In order to prevent psychotic deterioration, dronabinol (2.5%) was carefully increased to 10 mg b.i.d. Apart from anticholinergic symptoms that preceded the addition of dronabinol (patient 1: dry mouth, constipation; patient 2: constipation, hypotension), both patients reported no side effects. In particular, there was no deterioration of psychotic or mood disorder symptoms.

https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml

People with panic disorder have recurrent unexpected panic attacks, which are sudden periods of intense fear that may include palpitations, pounding heart, or accelerated heart rate; sweating; trembling or shaking; sensations of shortness of breath, smothering, or choking; and feeling of impending doom.

Panic disorder symptoms include:

- Sudden and repeated attacks of intense fear
- Feelings of being out of control during a panic attack
- Intense worries about when the next attack will happen
- Fear or avoidance of places where panic attacks have occurred in the past

PTSD patients suffer panic attacks, and use medical marijuana to relieve panic attacks. If someone suffering from PTSD can use medical marijuana to treat panic attacks, why are adults who do not have PTSD not allowed to use medical marijuana for panic attacks?

In the MMMA, the people of Michigan stated that medical marijuana was a medicine, and presented the 1999 Institute of Medicine report on medical marijuana as evidence

> (a) Modern medical research, including as found by the **National Academy of Sciences' Institute of Medicine in a March 1999 report**, has discovered beneficial uses for marihuana in treating or alleviating the pain, nausea, and other symptoms associated with a variety of debilitating medical conditions.

http://legislature.mi.gov/doc.aspx?mcl-333-26422

In the 1999 National Academy of Sciences Institute of Medicine report on marijuana, the National Academy of Science found that thorough medical research shows that marijuana reduces anxiety for "many people".

> The movement disorders most often considered for marijuana or cannabinoid therapy are dystonia, Huntington's disease, Parkinson's disease, and Tourette's syndrome. Movement disorders are often transiently exacerbated by stress and activity and improved by factors that reduce stress. This is of particular interest because for many people marijuana reduces anxiety.

Anxiety affects a large portion of the people in the United States, costing billions of dollars in medical treatment costs.
https://www.cdc.gov/mentalhealth/basics/burden.htm

**Anxiety:**

- Anxiety disorders, which include panic disorder, generalized anxiety disorder, post-traumatic stress disorder, phobias, and separation anxiety disorder, are the most common class of mental disorders present in the general population.
- The estimated lifetime prevalence of any anxiety disorder is over 15%, while the 12-month prevalence is more than 10%.
- Prevalence estimates of anxiety disorders are generally higher in developed countries than in developing countries.
- Most anxiety disorders are more prevalent in women than in men.
- One study estimated the annual cost of anxiety disorders in the United States to be approximately $42.3 billion in the 1990s, a majority of which was due to non-psychiatric medical treatment costs. This estimate focused on short-term effects and did not include the effect of outcomes such as the increased risk of other disorders.

R 333.133's purpose exists only to hamper and places undue burdens on medical marijuana condition petitions and the medical use of marijuana. People do not have access to articles published in peer-reviewed scientific journals or any way to search for the articles. In reality, in 2008, the people of Michigan had to rely on a report from 1999 to show medical efficacy of marijuana. Why did the people in 2008 rely on a then 9 year old report? Why is this petition today, STILL RELYING ON THAT 1999 report, 18 years later? Research on medical marijuana has been halted at every turn, in every federal agency, even individual states have blocked medical marijuana research.

R 333.133 Petition to add qualifying diseases or medical conditions; review panel; recommendations.
Rule 33. (1) The department shall accept a written petition on a form prescribed by the department from any person requesting that a particular medical condition or treatment be included in the list of debilitating medical conditions under section 3(b) of the act, MCL 333.26423(b).

The petition shall include current medical, empirical, and evidence-based data, including both of the following:

 (a) A summary of the evidence that the use of marihuana will provide palliative or therapeutic benefit for the medical condition or a treatment of the medical condition.

 (b) Articles published in peer-reviewed scientific journals reporting the results of research on the effects of marihuana on the medical condition or treatment of the

medical condition and supporting why the medical condition should be added to the list of debilitating medical conditions under section 3(b) of the act, MCL 333.26423(b).

*(2) If the petition does not contain current medical, empirical, and evidence-based data as described in subrule (1) of this rule, the department shall return the petition to the petitioner as incomplete.*

http://w3.lara.state.mi.us/orrsearch/1303_2013-105LR_AdminCode.pdf

The people of Michigan relied upon the 1999 IOM report to declare marijuana as a medicine. This petition is relying upon that same 1999 IOM report to declare marijuana effective for treating anxiety, 18 years after the report was published.

Reality. We must live in it, we cannot bend reality around us. Marijuana is classified in the Federal and Michigan Controlled Substances as Schedule 1, of having no medical benefit. Michigan also duplicates the scheduling of medical marijuana in Schedule 2. This means that there are significant barriers to research it. There are physicians in the USA who have waited for 5-10+ years to study marijuana's effects, including Dr. Donald Abrams and Dr. Sue Sisley.

In two decades, only 15 researchers have won the approval to test the efficacy of marijuana on humans.

http://www.thedailybeast.com/americas-only-pot-researcher-fired-before-she-could-help-vets

The panel should not think of itself as the FDA, reviewing and requiring research to approve a new dangerous toxic drug for a condition. Think of yourselves as a group who has to weigh the risks and benefits of an already established 8000+ year old safe non-toxic medicinal plant being used for a condition in which it has already been used and prescribed, for thousands of years to hundreds of millions of humans. The only time period that marijuana has not been used to treat Anxiety is when marijuana has been made illegal, which has only been in the last 100 years of human history.

Marijuana is safer and has less side effects, and no severe, toxic and dangerous side effects, than compared to all of the prescription medications used to treat Anxiety.

Anti-Anxiety medication Ativan may be implicated in Soundgarden's lead singer Chris Cornell's suicide.

Many anti-anxiety medications have side effect of suicidal thought and suicide risk:

How do people respond to anti-anxiety medications?

Anti-anxiety medications such as benzodiazepines are effective in relieving anxiety and take effect more quickly than the antidepressant medications (or buspirone) often prescribed for anxiety. However, people can build up a tolerance to benzodiazepines if they are taken over a long period of time and may need higher and higher doses to get the same effect. Some people may even become dependent on them. To avoid these problems, doctors usually prescribe benzodiazepines for short periods, a practice that is especially helpful for older adults (read the NIMH article: Despite Risks, Benzodiazepine Use Highest in Older People), people who have substance abuse problems and people who become dependent on medication easily. If people suddenly stop taking benzodiazepines, they may have withdrawal symptoms or their anxiety may return. Therefore, benzodiazepines should be tapered off slowly.

What are the possible side effects of anti-anxiety medications?

Like other medications, anti-anxiety medications may cause side effects. Some of these side effects and risks are serious. The most common side effects for benzodiazepines are drowsiness and dizziness. Other possible side effects include:
Nausea
Blurred vision
Headache
Confusion
Tiredness
Nightmares

Tell your doctor if any of these symptoms are severe or do not go away:
Drowsiness
Dizziness
Unsteadiness
Problems with coordination
Difficulty thinking or remembering
Increased saliva
Muscle or joint pain

Frequent urination

Blurred vision

Changes in sex drive or ability (The American Society of Health-System Pharmacists, Inc, 2010)

If you experience any of the symptoms below, call your doctor immediately:

Rash

Hives

Swelling of the eyes, face, lips, tongue, or throat

Difficulty breathing or swallowing

Hoarseness

Seizures

Yellowing of the skin or eyes

Depression

Difficulty speaking

Yellowing of the skin or eyes

Thoughts of suicide or harming yourself

Difficulty breathing

Common side effects of beta-blockers include:

Fatigue

Cold hands

Dizziness or light-headedness

Weakness

Beta-blockers generally are not recommended for people with asthma or diabetes because they may worsen symptoms related to both.

Possible side effects from buspirone include:

Dizziness

Headaches

Nausea

Nervousness

Lightheadedness

Excitement

Trouble sleeping

Anti-anxiety medications may cause other side effects that are not included in the lists above.

https://www.nimh.nih.gov/health/topics/mental-health-medications/index.shtml

Benzodiazepines, commonly used as anti anxiety medications, are responsible for hundreds of deaths each year in the United States.

https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates

https://directorsblog.nih.gov/2014/04/10/anxiety-reduction-exploring-the-role-of-cannabinoid-receptors/

Relief of anxiety and stress is one of the most common reasons that people give for using marijuana

Medical Marijuana is used by PTSD patients to alleviate anxiety. All adults should be able to have cannabis sativa as an option, as recommended and controlled by a physician, for treatment of anxiety.

A safety profile of Medical Marijuana can be found in the first year report of the Minnesota medical marijuana program. The Minnesota Department of Health surveyed 1500+ medical marijuana patients enrolled in the program.

http://www.health.state.mn.us/topics/cannabis/about/firstyearreport.html

Adverse Side Effects: At this point, the safety profile of the medical cannabis products available through the Minnesota program seems quite favorable. Approximately 20-25% of enrolled patients report negative physical or mental side effects of some kind, with the majority – around 60% - reporting only one and 90% reporting three or fewer. The vast majority of adverse side effects, around 90%, are mild to moderate in severity. An assessment of the 30 patients reporting severe side effects, meaning "interrupts usual daily activities," found no apparent pattern of patient age, medical condition, or type of medical cannabis used. The most common adverse side effects are dry mouth, drowsiness, and fatigue. Fortunately, up to the present no serious adverse events (life threatening or requiring hospitalization)

have been reported.

Medical Marijuana's mild to moderate side effects of dry mouth, drowsiness and fatigue are easily tolerated by the vast majority of patients.

The Mayo Clinic website has assembled dosage information on Medical Marijuana.

http://www.mayoclinic.org/drugs-supplements/marijuana/dosing/hrb-20059701

NIDA finds it difficult to put the words together, but finally begrudgingly admits there is no gateway theory of marijuana use.

https://www.drugabuse.gov/publications/research-reports/marijuana/marijuana-gateway-drug
> These findings are consistent with the idea of marijuana as a "gateway drug." However, the majority of people who use marijuana do not go on to use other, "harder" substances.

**3. Provide a summary of the evidence that the use of medical marihuana will provide palliative or therapeutic benefit for this medical condition or is a treatment for this condition.**

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3998228/
Ninety-seven per cent of respondents used cannabis primarily for chronic pain. Average pain improvement on a 0–10 pain scale was 5.0 (from 7.8 to 2.8), which translates to a 64% relative decrease in average pain. Half of all respondents also noted relief from stress/anxiety, and nearly half (45%) reported relief from insomnia. Most patients (71%) reported no adverse effects, while 6% reported a cough or throat irritation and 5% feared arrest even though medical cannabis is legal in Hawaiʻi. No serious adverse effects were reported.
These results suggest that Cannabis is an extremely safe and effective medication for many chronic pain patients. Cannabis appears to alleviate pain, insomnia, and may be helpful in relieving anxiety. Cannabis has shown extreme promise in the treatment of numerous medical problems and deserves to be released from the current Schedule I federal prohibition against research and prescription.

2. https://harmreductionjournal.biomedcentral.com/articles/10.1186/1477-7517-2-18
Approximately three quarters of participants (71%) claimed to have experienced a return of their symptoms or condition on stopping cannabis, especially: pain (53% of those who claimed a

return of symptoms), depression or anxiety (30%), insomnia (11%), spasm (10%) and nausea/vomiting or lack of appetite (9%).

3. 10.1016/j.jpain.2007.09.002
A randomized, double-blind, placebo-controlled trial was conducted to determine the benefit of nabilone in pain management and quality of life improvement in 40 patients with fibromyalgia. There were significant decreases in the VAS, FIQ, and _anxiety_ in the nabilone treated group at 4 weeks. There were no significant improvements in the placebo group. The treatment group experienced more side effects per person at 2 and 4 weeks, respectively. Nabilone appears to be a beneficial, well-tolerated treatment option for fibromyalgia patients, with significant benefits in pain relief and functional improvement.

4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2683812/
Thematic analysis revealed that these teens differentiated themselves from recreational users and positioned their use of marijuana for relief by emphasizing their inability to find other ways to deal with their health problems, the sophisticated ways in which they titrated their intake, and the benefits that they experienced. These teens used marijuana to gain relief from difficult feelings (including depression, anxiety and stress), sleep difficulties, problems with concentration and physical pain.

5. 10.1080/02791072.2011.587700
Of 1,746 patients, 37.8% self-reported therapeutic benefits from medical marijuana for anxiety. 16.9% of patients self-reported therapeutic benefits from medical marijuana for panic attacks.

6. https://www.ncbi.nlm.nih.gov/pubmed/6117575
 The results of the study showed a dramatic improvement in anxiety in the nabilone group when compared with placebo (P less than 0.001). Side effects reported were dry mouth, dry eyes, and drowsiness. Patients did not report any of the subjective "altered state" experience of marihuana.

7. https://www.ncbi.nlm.nih.gov/pubmed/15857739
Following Ethics Committee approval, HIV-positive individuals attending a large clinic were recruited into an anonymous cross-sectional questionnaire study. Up to one-third (27%, 143/523) reported using cannabis for treating symptoms. Patients reported improved appetite (97%), muscle pain (94%), nausea (93%), anxiety (93%), nerve pain (90%), depression (86%), and paresthesia (85%).

8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5101100/

Cannabidiol oil, an increasingly popular treatment of anxiety and sleep issues, has been documented as being an effective alternative to pharmaceutical medications. This case study provides clinical data that support the use of cannabidiol oil as a safe treatment for reducing anxiety and improving sleep in a young girl with posttraumatic stress disorder.

9. https://www.ncbi.nlm.nih.gov/pubmed/24095000
Patients reported using cannabis to treat multiple symptoms, with sleep, pain, and <u>anxiety</u> being the most common. Cannabis was perceived to provide effective symptoms relief across medical conditions. Patterns of use were also consistent across medical conditions. Notable differences were observed with regard to modes of access.

10. https://www.ncbi.nlm.nih.gov/pubmed/15184623/
Of 21 patients reporting stress, 20 said medical marijuana helped moderate-complete relief.
Of 16 patients reporting mood, all 16 said medical marijuana helped moderate-complete relief.
The symptoms reported by medical cannabis users to be most effectively relieved were stress, sleep, mood, stiffness/spasm, and pain.

11. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5312634/
Finally, preliminary clinical trials suggest that high-dose oral CBD (150–600 mg per day) may exert a therapeutic effect for epilepsy, insomnia, and social anxiety disorder. Nonetheless, such doses of CBD have also been shown to cause sedation.

12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5165161/
In addition, we have assessed the role of the cannabinoid system and marijuana constituents in neuroprotection as well as considered other beneficial effects of marijuana. Marijuana has been shown to improve nonmotor symptoms of PD such as depression, pain, sleep, and anxiety. Moreover, components of cannabis have been demonstrated to have neuroprotective effect due to their anti-inflammatory, antioxidative, and antiexcitotoxic properties.

13. https://www.ncbi.nlm.nih.gov/pubmed/26317379
367 medical marijuana patients in Arizona were surveyed.
181 patients reported using medical marijuana to experience relief from Anxiety
164 patients reported using medical marijuana to experience relief from Stress.
32 patients reported using medical marijuana to experience relief from ADHD.
23 patients reported using medical marijuana to experience relief from Bipolar disorder.
106 patients reported using medical marijuana to experience relief from Depression.
17 patients reported using medical marijuana to experience relief from OCD.
2 patients reported using medical marijuana to experience relief from Schizophrenia.

28 patients reported using medical marijuana to experience relief from PTSD.
General relief from Anxiety symptoms was 82.9% and 87.2% for Stress,
Relief by medical marijuana compared to other medications was 79.3% for Anxiety and 91.6% for Stress.
Less frequent use of other medications was 85.9% for Anxiety and 79.1% for Stress.

14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285527/
100 Canadian medical marijuana patients were surveyed in 2007-2008.
60.2% said they used medical marijuana to reduce anxiety.

15. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1262744/
This exploratory study examined the patterns of medicinal cannabis use among a sample of 128 Australian adults who responded to media stories about this issue.
Nearly one in ten (8%) reported no effect on depression or anxiety. More than one in ten (14%) specified that while cannabis could ease their symptoms and enabled them to cope, they realised that it could not cure their underlying condition.
Approximately three quarters of participants (71%) claimed to have experienced a return of their symptoms or condition on stopping cannabis, especially: pain (53% of those who claimed a return of symptoms), depression or anxiety (30%), insomnia (11%), spasm (10%) and nausea/vomiting or lack of appetite (9%).

Almost two thirds (62%) of respondents claimed that they decreased or discontinued their use of other medicines when they started using cannabis medicinally. This was more common in males (65% vs. 58% of females) and older participants (aged 50 years +) (70% vs. 59% among younger participants). For some people this was a substantial change, representing a shift away from chronic, high-dose medication use.

Perhaps not surprisingly, cannabis was typically perceived as superior to other medications in terms of undesirable effects, and the extent of relief provided. Thus, cannabis was rated to produce equivalent (8%) or worse side effects (3%) by a minority of therapeutic users. It was considered to work "a bit" or "much better" than other medicines, or to be the only source of relief, by more than three quarters (82%).

16. https://www.ncbi.nlm.nih.gov/pubmed/28189912
In regards to conditions, pain-related conditions were the most common, reported by 53% of participants (n = 144; chronic pain 36%; (n = 98), arthritis 12% (n = 32), headache 5% (n = 14)). The second most prominent class was mental health (eating disorder, PTSD & psychiatric

disorder), reported by 15% (n = 41). Other prominent conditions included gastrointestinal I disorders (11%, n = 29), insomnia (7%, n = 18) and multiple sclerosis (4%, n = 11).

In regards to symptoms; the most highly endorsed were chronic pain (73%, n = 197), *stress (60%, n = 162)*, insomnia (57%, n = 155), depression (46%, n = 126) and headache (32%, n = 87). Gastrointestinal (GI) issues also featured prominently, with 29% (n = 79) citing appetite loss and another 29% (n = 79) nausea. Cannabis was perceived to be very effective at symptom relief, with 95% (n = 257) reporting that it "often" or "always" helped alleviate their symptoms.

17. 10.1111/dar.12323
Participants presented with the range of conditions that is generally consistent with surveys of CTP users, the most prominent conditions being pain (32%), mood (i.e. *anxiety* and depression; 18%), arthritis (15%), HIV (10%), gastrointestinal disorder (7%)

18. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5422566/
We previously reported in an earlier survey that of 1,429 respondents, 61% reported using cannabis for managing pain, *58% reported using cannabis for anxiety* and 50% reported using cannabis for depression. In the current analysis, these same conditions were also the most commonly reported conditions by respondents. Of the 1,040 participants reporting pain and/or intractable pain, 619 (59.52%) reported depression and anxiety as comorbidities. As such, the odds of reporting substituting cannabis for prescription drugs were more than one and a half times greater (OR, 1.66; 95% CI, 1.27–2.16) among those reporting using it to manage pain, anxiety and depression than among those using it to manage only one of the three conditions. This team previously reported that in a survey of 1,429 medical cannabis users, 61% reported cannabis use for pain, *58% reported cannabis use for anxiety* and 50% reported using cannabis to manage depression. In 2016, Dale and Stacey reported that those using cannabis for pain were more likely to be substituting for prescription drugs. In 2017, Walsh et al published a review of medical cannabis and mental health to try to better understand how medical cannabis use may impact areas of potential concern for clinicians. "Relaxation and relief of anxiety" and "relief of negative mood" or depression were among the most widely reported conditions in 60 publications included in their analysis. Because it is common for chronic pain patients to be prescribed combinatorial pharmacotherapy to address comorbidity with depression and/or *anxiety*, it is largely unknown how often patients may be discontinuing prescription medications when initiating cannabis use.
Taken with preclinical data on the role of the endocannabinoid system in stress, pain processing and immune homeostasis, it is clear that future investigation is warranted using controlled trials with human subjects to better understand the role that cannabis may play in treating pain, anxiety, depression and other conditions.

19. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4277530/
Most of the respondents (from the clinic and online groups) reported that cannabis improved their mood, pain, muscle spasms, and sleep.

20. https://www.ncbi.nlm.nih.gov/pubmed/11210205
Of 628 Canadian medical marijuana patients:
463 patients reported using medical marijuana to treat anxiety.
394 patients reported using medical marijuana to treat depression.
140 patients reported using medical marijuana to treat aggression.
62 patients reported using medical marijuana to treat Mania/Psychosis.

This article reports on an exploratory study of medical cannabis users. Interviews were completed with 50 self-identified medical cannabis users recruited through notices in newspapers and on bulletin boards. They reported using cannabis for a variety of conditions including HIV-AIDS-related problems, chronic pain, depression, _anxiety_, menstrual cramps, migraine, narcotic addiction as well as everyday aches, pains**, _stresses_** and sleeping difficulties. However, cannabis was also used to treat menstrual cramps, anorexia, narcotic addiction, migraine, Tourette's Syndrome, lupus, Grave 's Disease, epilepsy, retinitis, chemotherapy-induced loss of appetite, Crohn 's Disease, arthritis and everyday aches, pains, stresses and sleeping difficulties.
Many reported benefits of cannabis were consistent with those reported elsewhere. Cannabis was typically used for its sedative, analgesic, antispasmodic, appetite stimulating, anticonvulsant and euphoric properties. These properties were well known in the past century when cannabis was used to treat conditions that required medications with these properties. Although scientific evidence in favor of medical cannabis is limited (Gurley, Aranow & Katz 1 998), self-treatment with cannabis could become popular as more users publicize their own experiences. This is especially so if the everyday aches and pains and psychological problems are promoted as medical reasons for using cannabis.

21. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2683812/
The use of marijuana to manage stress and anxiety was described by 12 teens in our sample. Dealing with bullying at school, heavy demands of school work, taxing shifts at work, and just "giving as much as you can" along side difficult relationships with parents or guardians, and receiving threats from neighbors all took its toll on these youth. For some, these experiences contributed to high levels of stress and anxiety, and for others uncomfortable levels of anger – both were difficult to manage. Although some had friends they could turn to, _marijuana provided an additional source of stress relief that was ready at hand._

"Lots of people know me, know I do pot and they think that I'm a pot head but really the thing they don't realize is that I have a reason for it. It's for my stress and an antidepressant. I get really upset. It [pot] helps me feel better about myself, because you know people don't do that [help me], like my friend [name] can, but nobody else can." [Female, 14 years, non-daily use]

There was general agreement among the teens that marijuana calmed them down, and helped them feel "not so nervous" and "not so uptight about everything." One teen recognized, however, that despite the fact that marijuana could be a very effective stress reliever, it might not work for everyone:

"Well as far as pot goes, the good thing is that it's definitely a stress reliever, hands down. I know lots of people who would be just a complete wreck if they weren't smoking pot but then there's also people who are a complete wreck because they do smoke pot, so it's kind of a hard thing." [Male, 16 years, non-daily use]

22. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3691841/

While the controversies surrounding cannabis are far from subdued (and are often permeated and masked by conflicting ideological credos), standardized studies on cannabinoids have highlighted that the psychological and behavioral outcomes of this substance are highly variable and range from relaxation, euthymia and heightened sociability to panic, paranoid ideation and psychosis [112-116]. A corollary of this observation is that the high comorbidity rate between cannabis use disorders and psychiatric conditions [100-105] may indicate that cannabis consumption is either a concurring cause or a "self-therapeutic" strategy for anxiety and mood disorders [117-123]. The latter interpretation is supported by the observation that anxiety-spectrum disturbances and traumas in early developmental stages are a strong predictor for later cannabis use disorders [124-127]; furthermore, several lines of evidence suggest that the anxiolytic effects of THC may partially account for the high prevalence of cannabis use in patients affected by PTSD [128-131] and OCD [132]. Accordingly, recent clinical studies have shown that THC elicits therapeutic effects in OCD [133] and trichotillomania, an impulse-control disorder characterized by compulsive hair-pulling [134].

23. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4604171/

Overall, current evidence indicates CBD has considerable potential as a treatment for multiple anxiety disorders, with need for further study of chronic and therapeutic effects in relevant clinical populations.

24. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4604174/

Although clinical studies in this area are difficult to do, even in countries where the use of cannabis has been allowed for years, there is a clear role for cannabis products in symptom management for these difficult conditions.

25. https://www.ncbi.nlm.nih.gov/pubmed/22729452
**RESULTS:**
Studies using animal models of anxiety and involving healthy volunteers clearly suggest an anxiolytic-like effect of CBD. Moreover, CBD was shown to reduce anxiety in patients with social anxiety disorder.

**CONCLUSION:**
Future clinical trials involving patients with different anxiety disorders are warranted, especially of panic disorder, obsessive-compulsive disorder, social anxiety disorder, and post-traumatic stress disorders. The adequate therapeutic window of CBD and the precise mechanisms involved in its anxiolytic action remain to be determined.

26. 10.2202/1941-2851.1017
1655 Patients reported using medical marijuana for these conditions:
Anxiety disorders 18.7% of patients
Depression 9.3% of patients
Bipolar disorder 2.5% of patients
Attention deficit disorder 3.1% of patients
Any of these mental disorder ICDs 22.9% of patients surveyed.

Applicants most frequently reported using medical marijuana for pain relief (82.6%), improved sleep (70.6%), and relaxation (55.6%). The next most frequently reported benefits included relief of muscle spasms (41.3%), headache (40.8%), relief of anxiety (38.1%), improved appetite (38.0%), relief of nausea and vomiting (27.7%), and relief of depression (26.1%). Half the applicants (50.8%) reported using marijuana as a substitute for prescription medication and 13.2% reported using marijuana as a substitute for alcohol.

27. 10.1176/appi.ajp.2007.07061016
Hence, it can be speculated that the anti-obsessive effect observed in our patients may have been a consequence of the glutamate modulation of the cannabinoid dronabinol.

28. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4349825/
The findings from the study indicate that cannabis use is associated with a subsequent change in positive affect, depressive symptoms and manic symptoms over the course of daily life. No

evidence for the use of cannabis to self-medicate minor fluctuations in negative affect or BD symptoms was revealed. Participants in the study were currently well and out of episode. Future research should explore whether the self-medication hypothesis is more relevant to individuals that are in the acute stages of depression or mania. This would be consistent with the broader self-medication hypothesis in BD where individuals have reported finding cannabis useful in the management of their symptoms.

29. https://www.ncbi.nlm.nih.gov/pubmed/9692379

The authors present case histories indicating that a number of patients find cannabis (marihuana) useful in the treatment of their bipolar disorder. Some used it to treat mania, depression, or both. They stated that it was more effective than conventional drugs, or helped relieve the side effects of those drugs. One woman found that cannabis curbed her manic rages; she and her husband have worked to make it legally available as a medicine. Others described the use of cannabis as a supplement to lithium (allowing reduced consumption) or for relief of lithium's side effects. Another case illustrates the fact that medical cannabis users are in danger of arrest, especially when children are encouraged to inform on parents by some drug prevention programs. An analogy is drawn between the status of cannabis today and that of lithium in the early 1950s, when its effect on mania had been discovered but there were no controlled studies. In the case of cannabis, the law has made such studies almost impossible, and the only available evidence is anecdotal. The potential for cannabis as a treatment for bipolar disorder unfortunately can not be fully explored in the present social circumstances.

30. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4898690/

Findings suggest that for some bipolar patients, marijuana may result in partial alleviation of clinical symptoms. Moreover, this improvement is not at the expense of additional cognitive impairment.

31. https://www.ncbi.nlm.nih.gov/pubmed/17703715

Subjective reports by patients suggest an overall positive effect, but these may be unreliable. We herein report a case in which mood data was prospectively collected over two years of total substance abstinence and two years of extreme marijuana use. Marijuana use did not alter the total number of days of abnormal mood, however, marijuana was associated with an increase in the number of hypomanic days and a decrease in the number of depressed days. While not conclusive, the data suggest that marijuana may indeed have an effect on mood in bipolar patients that needs to be systematically examined.

32. (missing) https://www.ncbi.nlm.nih.gov/pubmed/27804883

Cannabis use diminishes some of the adverse effects of neurological and psychiatric disorders.

33. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4323143/

These results suggest that cannabis use has clinical implications for the early course of BD (Bipolar Disorder) by increasing mood level.

34. 10.1111/j.1368-5031.2005.00271.x

Medicinal cannabis use was Reported by patients with chronic pain(25%), multiple sclerosis and depression (22% each), arthritis (21%) and neuropathy (19%).

**4. Provide articles published in peer-reviewed scientific journals reporting the results of research on the effects of marihuana on the medical condition or treatment of the medical condition and supporting why the medical condition should be added to the list of debilitating medical conditions under the Medical Marihuana Act. Attach a copy of all articles that are discussed in this section. Please do not attach articles that are not discussed in this section.**

See enclosed.